

THE 4th JERUSALEM CONFERENCE  
ON INFORMATION TECHNOLOGY (JCIT)

NEXT DECADE IN INFORMATION TECHNOLOGY

ועידת ירושלים ה-4 לטכנולוגיה  
של המידע



PROGRAM

May 21-25, 1984 Jerusalem, Israel

IPA - Information Processing  
Association of Israel



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## **THE 4th JERUSALEM CONFERENCE ON INFORMATION TECHNOLOGY (JCIT)**

**Organized by:** IPA, Information Processing Association of Israel  
**Sponsored by:** IEEE Computer Society  
**In Cooperation with:** ACM, Association for Computing Machinery  
CIPS, Canadian Information Processing Society  
AFIPS, American Federation for Information Processing  
AFCET, Association Française pour la Cybernetique, Economique et Technique  
**Promoted by:** Software Center, Israel Export Institute

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**Amiram Shore, M.L.L. Software and Computer Industries Ltd., Israel**

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**Edward Feigenbaum, Stanford University, U.S.A.**

**Aaron Finerman, University of Michigan, U.S.A.**

**Herbert Freeman, Rensselaer Polytechnic Institute, U.S.A.**

**Bernard Galler, University of Michigan, U.S.A.**

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**Shmuel Penchas, Hadassah Medical Organization, Israel**

**Kenneth Preiss, Ben-Gurion University of the Negev, Israel**

**Judith M.S. Prewitt, Bell Laboratories, U.S.A.**

**Brian Randell, Computing Laboratory, Newcastle-upon-Tyne, England**

**Uri Shamir, Technion - Israel Institute of Technology, Israel**

**Jeffrey Ullman, Stanford University, U.S.A.**

**Shimon Ullman, MIT, U.S.A. and Weizmann Institute of Science, Israel**

**Stanley Winkler, U.S. National Bureau of Standards, U.S.A.**

**Moshe Zloof, International Business Machines Corporation, U.S.A.**

## **ACKNOWLEDGEMENTS**

(In alphabetical order)

**The Organizing Committee gratefully acknowledges the financial assistance and support provided by:**

Afik Computers Subsidiary of Afik Investments Co. Ltd.  
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Shaked Computer Systems Ltd.  
Tnuva Computers Ltd.  
Yalan, Mishkei Tnuat Hamoshavim

	HALL A	HALL B	HALL C	אולם אוסטראקון
Thursday, May 24	09:00-10:30 Robotics	09:00-10:30 Databases	09:00-10:30 Reliable Systems	09:00-10:30 שימושים במערכות בקלאוט ובקם
		Coffee Break	Lunch Break	
	11:00-12:30 Computer Communications Networks	11:00-12:30 Databases	11:00-12:30 Reliable Systems	11:00-12:30 שימושים במערכות בקלאוט ובמיים (המשך)
	14:00-15:30 Computer Communications Networks	14:00-15:30 Databases	14:30-15:30 Information Systems	14:00-15:00 ניהול ומערכות מודעה
		Coffee Break	Coffee Break	
				15:00 מושב עיילה: מלך פסחים ר'שוח
	16:00-17:00 Computer Communications Networks	16:00-17:30 Office Automation	16:00-17:00 Information Systems	
		20:30 Farewell Banquet (optional) at the Jerusalem Hilton		
Friday, May 25	08:30-10:00 <i>Plenary Session</i> Challenge of the Fifth Generation			
	10:00-10:30 Coffee Break			
	10:30-12:00 <i>Plenary Session</i> Challenge of the Fifth Generation (Cont'd)			
	12:00-13:00 Panel Discussion			
	13:00-13:15 Closing of Conference			

## TIME TABLE

<b>Monday May 21</b>			18:30 Reception - (Binyanei Ha'ooma - Hall A) 21:00 Israeli Folklore Performance (Jerusalem Theatre)
<b>Tuesday, May 22</b>			09:00-11:00 <i>Opening Ceremony</i> - (Ussishkin Hall)
		Coffee Break	
	<b>HALL A</b>	<b>HALL B</b>	<b>HALL C</b>
	11:30-13:30 AI and Image Processing	11:30-13:00 Computer Architecture	11:30-13:00 Foundations of Computer Science
		Lunch Break	
	15:00-16:00 AI and Image Processing	14:30-16:00 Computer Architecture	14:30-15:30 Foundations of Computer Science
		Coffee Break	
		16:30-18:00 <i>Special Plenary Session</i> - (Ussishkin Hall) State of Industry and R & D in Israel	
		20:30 Reception by the Municipality of Jerusalem at the Israel Museum	
<b>Wednesday, May 23</b>	09:00-11:00 VLSI	09:00-11:00 Computers in Education	09:00-11:00 Computers in Medicine
		Coffee Break	
	11:15-12:15 Graphics	11:15-12:15 Computers in Education	11:15-12:15 Natural Language Interfaces & Knowledge Acquisition
		Lunch Break	
	13:30-15:00 Graphics	13:30-15:00 Software	13:30-15:00 Natural Language Interfaces & Knowledge Acquisition
		Coffee Break	
	15:30-17:00 Hardware-Software Interactions	15:30-17:00 Software	15:30-17:00 Expert Systems
		Lunch Break	
	17:15-18:15 Hardware-Software Interactions	17:15-18:15 Computers in Education	17:15-18:15 Expert Systems

**THE 4th JERUSALEM CONFERENCE ON  
INFORMATION TECHNOLOGY**

**P R O G R A M**

All sessions and events will be held at the Binyanei Ha'ooma Convention Center,  
unless stated otherwise.

**Monday, 21 May, 1984**

18:30 Reception  
21:00 Israeli Folklore Performance (at the Jerusalem Theatre)

**HALL A**

**Tuesday, 22 May, 1984**

09:00-11:00 OPENING CEREMONY

**USSISHKIN HALL**

M.C.: **Yair Aloni**

**GREETINGS:**

**Joseph Raviv**  
Co-Chairperson of the Conference, Israel

**Harvey S. Gellman**  
Co-Chairperson of the Conference, U.S.A.

**David H. Brandin**  
President, ACM, Association for Computing Machinery, U.S.A.

**Sylvia Charp**  
President, AFIPS, American Federation for Information Processing, U.S.A.

**Chaim Herzog**  
President of the State of Israel

**IPA AWARDS - to be presented by:**

**Abraham Ginzburg**  
President of the IPA, Information Processing Association of Israel

**Israel Police Band**  
**Michal Tal, Vocalist**

**KEYNOTE ADDRESS:**

**COMPUTERS IN INTERNATIONAL ECONOMICS AND BUSINESSES**  
**Lawrence Klein, Nobel Laureate**  
University of Pennsylvania, U.S.A.

11:00-11:30 Coffee Break

# SCIENTIFIC PROGRAM

Tuesday, 22 May, 1984

## **AI AND IMAGE PROCESSING**

**HALL A**

Chairpersons: **S. Ullman**, MIT, U.S.A., and Weizmann Institute of Science, Israel  
**A. Gill**, Galram, Israel

11.30–12.00	HUMAN AND MACHINE VISION <b>S. Ullman</b> , MIT, U.S.A., and Weizmann Institute of Science, Israel
12.00–12.30	ARTIFICIAL INTELLIGENCE AND MACHINE VISION <b>P. Winston</b> , MIT, U.S.A.
12.30–13.00	SOME ARTIFICIAL INTELLIGENCE CONTRIBUTIONS TO AIR TRAFFIC CONTROL <b>N. Findler</b> , Arizona State University, U.S.A.
13.00–13.30	HIERARCHICAL CONTOUR CODING – A TOOL FOR REAL TIME PATTERN RECOGNITION <b>G. Hartmann</b> , Universitaet Gesamthochschule, Fed. Rep. Germany
13.30–14.30	Lunch break

## **COMPUTER ARCHITECTURE**

**HALL B**

Chairpersons: **S. Fernbach**, Consultant, U.S.A.  
**E. Gruengard**, IBM Israel Ltd., Israel

11.30–12.00	SUPERCOMPUTERS OF THE FUTURE <b>S. Fernbach</b> , Consultant, U.S.A.
12.00–12.30	SUPERCOMPUTERS: THE NEXT TEN YEARS – A USER'S VIEW <b>J.E. Ranelletti</b> , Lawrence Radiation Laboratory, U.S.A.
12.30–13.00	SUPERCOMPUTER PERSPECTIVES <b>D.J. Kuck</b> , University of Illinois, U.S.A.
13.00–14.30	Lunch break

**Tuesday, 22 May, 1984**

**FOUNDATIONS OF COMPUTER SCIENCE**

**HALL C**

**Chairpersons:** **Z. Manna**, Stanford University, U.S.A.  
**A. Pnueli**, Weizmann Institute of Science, Israel

- 11.30–12.00 DEDUCTIVE PROGRAM SYNTHESIS**  
**Z. Manna**, Stanford University, U.S.A.
- 12.00–12.30 RANDOMIZED PROTOCOLS FOR CONCURRENCY CONTROL**  
**M. Rabin**, Harvard University, U.S.A., and Hebrew University of Jerusalem, Israel
- 12.30–13.00 THEORETICAL MODELS OF SECURITY IN OPERATING SYSTEMS**  
**M. Harrison**, University of California, Berkeley, U.S.A.
- 13.00–14.30 Lunch break**

**AI AND IMAGE PROCESSING**

**HALL A**

**Chairpersons:** **S. Ullman**, MIT, U.S.A., and Weizmann Institute of Science, Israel  
**A. Gill**, Galram, Israel

- 15.00–15.30 MULTIPLE RESOLUTION TEXTURE ANALYSIS AND CLASSIFICATION**  
**S. Peleg, J. Naor, R. Hartley and D. Avnir**, University of Maryland, U.S.A.
- 15.30–16.00 IMAGE PROCESSING OF STOMACH CANCER CYTOLOGY**  
**M. Weinreb, G. Zajicek and I.S. Levij**, The Hebrew University of Jerusalem/Hadassah Medical School, Israel
- 16.00–16.30 Coffee break**

**Tuesday, 22 May, 1984**

## **COMPUTER ARCHITECTURE**

HALL, R

- |             |   |
|-------------|---|
|             | <b>Chairpersons:</b> <b>S. Fernbach</b> , Consultant, U.S.A.<br><b>E. Gruengard</b> , IBM Israel Ltd., Israel.                  |
| 14.30–15.00 | A COMPARISON OF SEVERAL (UNIVERSITY) SUPERCOMPUTER ARCHITECTURES<br><b>Y. Patt</b> , University of California, Berkeley, U.S.A. |
| 15.00–15.30 | WHY DATAFLOW ARCHITECTURES<br><b>Arvind and D.E. Culler</b> , Massachusetts Institute of Technology, U.S.A.                     |
| 15.30–16.00 | GENERATING PARALLEL PROGRAMS FROM NONPROCEDURAL SPECIFICATIONS<br><b>M. Gokhale</b> , University of Delaware, U.S.A.            |
| 16.00–16.30 | Coffee break  |

## **FOUNDATIONS OF COMPUTER SCIENCE**

HALL C

- |                    |  |
|--------------------|--|
|                    | <b>Chairpersons:</b> <b>Z. Manna</b> , Stanford University, U.S.A.<br><b>A. Pnueli</b> , Weizmann Institute of Science, Israel |
| <b>14.30-15.00</b> | <b>EQUATIONS AS PROGRAMMING LANGUAGE</b><br><b>N. Dershowitz</b> , University of Illinois, U.S.A.                              |
| <b>15.00-15.30</b> | <b>IMPLEMENTING PROBLEM SOLVING STRATEGIES USING THE META-LEVEL</b><br><b>L. Sterling</b> , University of Edinburgh, Scotland  |
| <b>16.30-18.00</b> | <b>STATE OF INDUSTRY AND R&amp;D IN ISRAEL</b> <b>USSISHKIN HALL</b><br><br><b>(Plenary Session)</b>                           |

## STATE OF INDUSTRY AND R&D IN ISRAEL

USSISHKIN HALL.

## (Plenary Session)

#### **GUEST LECTURERS:**

- Gideon Patt, Minister of Industry and Trade**  
**Eli Hurvitz, President of the Manufacturers Association of Israel**  
**Uzia Galil, President, Elron Electronic Industries Ltd.**  
**Amos Horev, Managing Director, Bank Leumi Le-Israel Investments Co. Ltd.**

**Wednesday, 23 May, 1984**

**VLSI**

**HALL A**

**Chairpersons:** **J. Ullman**, Stanford University, U.S.A.  
**I. Berger**, IBM Israel Ltd., Israel

**09.00–09.30 VLSI COMPLEXITY AND SUPERCOMPUTER ORGANIZATION**  
**J. Ullman**, Stanford University, U.S.A.

**09.30–10.00 THE MOSIS SYSTEM**  
**D. Cohen**, University of Southern California, U.S.A.

**10.00–10.30 EXTENSION OF THE TWO-LEVEL FORMAT FOR THE DESIGN OF MULTI-LEVEL LOGIC**  
**H. Fleischer, L. Maissel and R.L. Phoenix**, International Business Machines Corporation, U.S.A.

**10.30–11.00 AN INFORMATION ANALYSIS APPROACH TO THE DESIGN OF DATABASES FOR VLSI CAD-SYSTEMS**  
**M. Marchesi**, Consiglio Nazionale delle Ricerche, Italy

**11.00–11.15 Coffee break**

**COMPUTERS IN EDUCATION**

**HALL B**

**Chairpersons:** **S. Charp**, Consultant – Education and Training, U.S.A.  
**L. Osin**, Centre for Educational Technology, Israel

**09.00–09.30 COMPUTERS IN ELEMENTARY AND SECONDARY EDUCATION – TWO DECADES OF CHANGE**  
**S. Charp**, Consultant – Education and Training, U.S.A.

**09.30–10.00 TRENDS AND FACTORS INVOLVED IN THE SCHOOL USE OF COMPUTERS IN THE U.S.**  
**A. Melmed and M. Davis**, U.S. Department of Education, U.S.A.

**10.00–10.30 PREPARING MANAGERS TO COPE WITH COMPUTERS**  
**H.C. Lucas**, New York University, U.S.A.

**10.30–11.00 COMPUTER-AIDED EDUCATION IN ARCHITECTURE**  
**Y.E. Kalay**, SUNY at Buffalo, U.S.A.

**11.00–11.15 Coffee break**

**Wednesday, 23 May, 1984**

**COMPUTERS IN MEDICINE**

**HALL C**

**Chairpersons:** **J.M.S. Prewitt, Bell Laboratories, U.S.A.**  
**S. Penchas, Hadassah Medical Organization, Israel**

- 09.00–09.30** **IMAGE PROCESSING APPLICATIONS IN HISTOLOGY**  
**J.M.S. Prewitt, Bell Laboratories, U.S.A.**
- 09.30–10.00** **KNOWLEDGE BASE SYSTEMS FOR MEDICAL PRACTICE**  
**R.R. Grams, University of Florida, U.S.A.**
- 10.00–10.30** **A DISTRIBUTED HOSPITAL INFORMATION SYSTEM**  
**S.G. Tolchin, S.A. Kahn, R.L. Stewart, E.S. Bergan and G.P. Gaske, Johns Hopkins University, U.S.A.**
- 10.30–11.00** **EXPERT SYSTEMS FOR DIAGNOSIS SUPPORT – A CONCEPTUAL TUTORIAL**  
**M. Ben-Bassat, Tel Aviv University, Israel, and University of California, U.S.A.**
- 11.00–11.15** **Coffee break**

**GRAPHICS**

**HALL A**

**Chairpersons:** **H. Freeman, Rensselaer Polytechnic Institute, U.S.A.**  
**S. Bergman, Edunetics, Israel**

- 11.15–12.45** **A SYSTEM FOR AUTOMATIC MAP NAME PLACEMENT**  
**H. Freeman and J. Ahn, Rensselaer Polytechnic Institute, U.S.A.**
- 12.45–12.15** **EARTH IMAGING AND DATA PROCESSING FOR MAPPING ANALYSIS, A TECHNOLOGICAL ASSESSMENT AND NEW DEVELOPMENTS**  
**R. Bernstein, J.B. Lotspiech and H.J. Myers, International Business Machines Corporation, U.S.A.**
- 12.15–13.30** **Lunch break**

**COMPUTERS IN EDUCATION**

**HALL B**

**Chairpersons:** **S. Charp, Consultant – Education and Training, U.S.A.**  
**L. Osin, Centre for Educational Technology, Israel**

- 11.15–11.45** **COMPUTER AIDED INSTRUCTION IN JEWISH EDUCATION**  
**I. Jaskoll, Bramson Ort Technical Institute, U.S.A.**
- 11.45–12.15** **TOAM: C.A.I. ON A NATIONAL SCALE**  
**L. Osin, Centre for Educational Technology, Israel**
- 12.15–13.30** **Lunch break**

**Wednesday, 23 May, 1984**

**NATURAL LANGUAGE INTERFACES AND KNOWLEDGE  
ACQUISITION**

**HALL C**

**Chairpersons:** **A.K. Joshi**, University of Pennsylvania, U.S.A.  
**Y. Choueka**, Bar Ilan University, Israel

**11.15–11.45 BEYOND SYNTACTIC SUGAR: NATURAL LANGUAGE INTERACTION WITH DATA BASES AND  
EXPERT SYSTEMS**  
**A. K. Joshi and B. Webber**, University of Pennsylvania, U.S.A.

**11.45–12.15 ISSUES IN THE DESIGN OF TRANSPORTABLE NATURAL LANGUAGE INTERFACES**  
**B. Grosz**, SRI International, U.S.A.

**12.15–13.30 Lunch break**

**GRAPHICS**

**HALL A**

**Chairpersons:** **H. Freeman**, Rensselaer Polytechnic Institute, U.S.A.  
**S. Bergman**, Edunetics, Israel

**13.30–14.00 TRENDS IN COMPUTER GRAPHICS IN SUPPORT OF CAD/CAM**  
**J. Staudhammer and J.Y. Shi**, University of Florida, U.S.A.

**14.00–14.30 HIERARCHIAL SYSTEMS FOR INTERACTIVE RASTER GRAPHICS**  
**M. Berger and S. Chen**, University of Colorado, U.S.A.

**14.30–15.00 TEXTURE SYNTHESIS LANGUAGE FOR COMPUTER-GENERATED IMAGES**  
**A. Kaufman and S. Azaria**, Ben-Gurion University of the Negev, Israel

**15.00–15.30 Coffee break**

**SOFTWARE**

**HALL B**

**Chairpersons:** **S. Graham**, University of California – Berkeley, U.S.A.  
**A. Reiter**, Reiter Software Systems Ltd., Israel

**13.30–14.00 MACHINE DESCRIPTION FOR COMPILER CODE GENERATION. EXPERIENCE SINCE JCIT-3**  
**S. Graham and R.R. Henry**, University of California, Berkeley, U.S.A.

**14.00–14.30 PROGRAM DEVELOPMENT BY USING A SOURCE LINKER**  
**M. Ancona, L. DeFloriani, G. Dodero and P. Thea**, Consiglio Nazionale delle Ricerche, Italy

**14.30–15.00 ANALYSIS AND TESTING BASED ON SEQUENCING SPECIFICATIONS**  
**R.N. Taylor**, University of California, U.S.A.

**15.00–15.30 Coffee break**

Wednesday, 23 May, 1984

**NATURAL LANGUAGE INTERFACES AND KNOWLEDGE ACQUISITION**

**HALL C**

Chairpersons: **A.K. Joshi**, University of Pennsylvania, U.S.A.  
**Y. Choeka**, Bar Ilan University, Israel

13.30–14.00      ACQUISITION OF EXPERTISE VIA PROBLEM REPRESENTATION  
**S. Amarel**, Rutgers University, U.S.A.

14.00–14.30      A PORTABLE WORKBENCH FOR INDEXING DOCUMENTS  
**N. Friedman**, McGill University, Canada

14.30–15.00      NATURAL LANGUAGE PROCESSING WITH COMSKEE  
**J. Messerschmidt**, Universitaet des Saarlandes, Fed. Rep. Germany

15.00–15.30      Coffee break

**HARDWARE–SOFTWARE INTERACTIONS**

**HALL A**

Chairpersons: **A. Peled**, International Business Machines Corporation, U.S.A.  
**J. Katzenelson**, Technion – Israel Institute of Technology, Israel

15.30–16.00      THE HARDWARE–SOFTWARE LONG RANGE TECHNOLOGY OUTLOOK  
**A. Peled**, International Business Machines Corporation, U.S.A.

16.00–16.30      FORTH AS THE MACHINE: A COMPUTER FOR SOFTWARE ENGINEERING  
**C. Vickery and G. Berkley**, Queens College of CUNY, U.S.A.

16.30–17.00      PASS: A SIMULATION SYSTEM FOR PARALLEL ARCHITECTURES  
**C. Webb**, Rensselaer Polytechnic Institute, U.S.A.

17.00–17.15      Break

**Wednesday, 23 May, 1984**

**SOFTWARE**

**HALL B**

**Chairpersons:** **S. Graham**, University of California – Berkeley, U.S.A.  
**A. Reiter**, Reiter Software Systems Ltd., Israel

**15.30–16.00** **PROGRAM EVOLUTION, THE PROGRAMMING PROCESS, PROGRAMMING SUPPORT**  
**M. Lehman**, Imperial College, UK

**16.00–16.30** **INTERACTIVE DEVELOPMENT OF SOFTWARE SPECIFICATIONS**  
**J.L. Darlington**, GMD Fed. Rep. Germany

**16.30–17.00** **COMPUTER ASSISTED REQUIREMENTS SPECIFICATION SYSTEM (CARS)**  
**S.G. Tolchin, E.S. Bergan, M.A. Espenshade, R.S. Grossman, S.A. Kahn, M.J. Schneider and R.F. Wachter**, Johns Hopkins University, U.S.A.

**17.00–17.15** Break

**EXPERT SYSTEMS**

**HALL C**

**Chairpersons:** **E. Feigenbaum**, Stanford University, U.S.A.  
**Y. Makowsky**, Technion – Israel Institute of Technology, Israel

**15.30–16.00** **KNOWLEDGE SYSTEMS**  
**E. Feigenbaum**, Stanford University, U.S.A.

**16.00–16.30** **AN EXPERT SYSTEM FOR LIVER FUNCTION TESTS**  
**E. Chang, K. Gamble and M. McNeely**, University of Victoria, Canada

**16.30–17.00** **KNOWLEDGE-BASED PROJECT MANAGEMENT AND COMMUNICATION SUPPORT IN A SYSTEM DEVELOPMENT ENVIRONMENT**  
**B.I. Kedzierski**, Kestrel Institute, U.S.A.

**17.00–17.15** Break

**Wednesday, 23 May, 1984**

**HARDWARE – SOFTWARE INTERACTIONS**

**HALL A**

**Chairpersons:** **A. Peled**, International Business Machines Corporation, U.S.A.  
**J. Katzenelson**, Technion – Israel Institute of Technology, Israel

**17.15–17.45** **ON SOFTWARE PROTECTION**

**A. Herzberg**, Technion – Israel Institute of Technology, Israel, and **G. Karmi**, Tel-Dan Co. Ltd., Israel

**17.45–18.15** **ON TWO ONE-STEP ALGORITHMS FOR THE RESTORATION OF BAND-LIMITED SIGNALS WITH LIMITED SPATIAL INFORMATION**

**N.N. Abdelmalek**, National Research Council of Canada, Canada

**COMPUTERS IN EDUCATION**

**HALL B**

**Chairpersons:** **S. Charp**, Consultant – Education and Training, U.S.A.  
**L. Osin**, Centre for Educational Technology, Israel

**17.15–17.45** **ROBOTS USING TECHNOLOGY TO TEACH NEW TECHNOLOGY**

**K. Cohen and C. Meyer**, Continuous Learning Corporation, U.S.A.

**17.45–18.15** **WORD PROCESSING AS AN EDUCATIONAL TOOL**

**S. Wolfson**, Wayne State University, U.S.A.

**EXPERT SYSTEMS**

**HALL C**

**Chairpersons:** **E. Feigenbaum**, Stanford University, U.S.A  
**Y. Makovsky**, Technion – Israel Institute of Technology, Israel

**17.15–17.45** **GENERALIZING EXPERT SYSTEMS – A PROBLEM- DRIVEN APPROACH**

**M. Ben-Bassat**, Tel Aviv University, Israel, and University of California, U.S.A.

**17.45–18.15** **AN EXPERT SYSTEM FOR THE MANIPULATION OF PROGRAMS**

**J-M. Fouet**, University of Paris, France

**Thursday, 24 May, 1984**

***ROBOTICS***

**HALL A**

**Chairpersons:** **R. Nagel, Lehigh University, U.S.A.**  
**G. Halevi, Israel Military Industries, Israel**

09.00–09.30	ROBOTICS: STATE OF THE ART REVIEW <b>R. Nagel, Lehigh University, U.S.A.</b>
09.30–10.00	AUTOMATIC GENERATION OF GRIPPING POSITIONS <b>R.A. Volz, University of Michigan, U.S.A.</b>
10.00–10.30	STATUS AND APPLICATIONS OF SOLID MODELLING <b>L.A. Gerhardt, Rensselaer Polytechnic Institute, U.S.A.</b>
10.30–11.00	Coffee break

***DATABASES***

**HALL B**

**Chairpersons:** **E.J. Neuhold, Hewlett-Packard, U.S.A.**  
**M. Hanani, Ben-Gurion University of the Negev, Israel**

09.00–09.30	DATABASES – THE NEXT TEN YEARS <b>E.J. Neuhold and N. Derrett, Hewlett-Packard, U.S.A.</b>
09.30–10.00	THE POWER STRUCTURE OF DATABASE SYSTEMS <b>N. Minsky and A. Lockman, Rutgers University, U.S.A.</b>
10.00–10.30	CONCEPT FOR THE DESIGN OF MULTI-DATABASE MANAGEMENT SYSTEMS <b>W. Litwin, INRIA, France</b>
10.30–11.00	Coffee break

**Thursday, 24 May, 1984**

**RELIABLE SYSTEMS**

**HALL C**

**Chairpersons:** **J-C. Laprie, LAAS, France**  
**D. Dolev, The Hebrew University of Jerusalem, Israel**

**09.00–09.30 RELIABILITY ISSUES IN DISTRIBUTED SYSTEMS**  
**B. Randell, University of Newcastle-upon-Tyne, U.K.**

**09.30–10.00 A RIGOROUS APPROACH TO FAULT TOLERANT PROGRAM DESIGN**  
**F. Cristian, International Business Machines Corporation, U.S.A.**

**10.00–10.30 TOWARDS A TAXONOMY OF DEPENDABLE COMPUTING**  
**J-C. Laprie, LAAS, France**

**10.30–11.00 Coffee break**

**COMPUTER COMMUNICATIONS NETWORKS**

**HALL A**

**Chairpersons:** **Y. Yemini, Columbia University, U.S.A.**  
**R. Atar, Israel Discount Bank Ltd., Israel.**

**11.00–11.30 RESEARCH DIRECTIONS IN DISTRIBUTED COMPUTING AND COMMUNICATIONS**  
**Y. Yemini, Columbia University, U.S.A.**

**11.30–12.00 A DISTRIBUTED ALGORITHM FOR CONSTRUCTING A MINIMUM-WEIGHT SPANNING TREE IN A FULLY CONNECTED BROADCAST NETWORK**  
**Y. Gold and S. Moran, University of Connecticut, U.S.A., and Technion – Israel Institute of Technology, Israel**

**12.00–12.30 COMMUNICATION INTERFACE DESIGN CONSIDERATIONS FOR HIGH AVAILABILITY DISTRIBUTED SYSTEMS**  
**I. Chlamtac and O. Ganz, Technion – Israel Institute of Technology, Israel**

**12.30–14.00 Lunch break**

**Thursday, 24 May, 1984**

**DATABASES**

**HALL B**

**Chairpersons:** **E.J. Neuhold**, Hewlett-Packard, U.S.A.  
**M. Hanani**, Ben-Gurion University of the Negev, Israel

- 11.00–11.30** **IMPACT OF DATABASE STRUCTURES AND DATABASE STORAGE DEVICES FOR RETRIEVAL RESPONSE TIMES**  
**T. Watanabe**, Kyoto University, Japan
- 11.30–12.00** **SSDB – AN ARCHITECTURE FOR STATISTICAL DATABASES**  
**G. Ozsoyoglu and Z.M. Ozsoyoglu**, Case Western Reserve University, U.S.A.
- 12.00–12.30** **APPLYING GRAPH BASED LOCKING PROTOCOLS TO RELATIONAL DATABASE SYSTEMS**  
**K. Gargeya and A. Silberschatz**, University of Texas, U.S.A.
- 12.30–14.00** Lunch break

**RELIABLE SYSTEMS**

**HALL C**

**Chairpersons:** **J-C. Laprie**, LAAS, France  
**D. Dolev**, The Hebrew University of Jerusalem, Israel

- 11.00–11.30** **FAULT TOLERANT ADA ARCHITECTURE**  
**R. Schwartz**, SRI International, U.S.A.
- 11.30–12.00** **PREDICTIVE QUALITY OF SOFTWARE RELIABILITY MODELS**  
**B. Littlewood**, City University London, U.K.
- 12.00–12.30** **SURVNET, A PROTOTYPE FAULT TOLERANT COMPUTER LOCAL AREA NETWORK**  
**J.L. Katz, E.C. Grund, R.P. Cope and A. Glick**, The MITRE Corporation, U.S.A.
- 12.30–14.00** Lunch break

**Thursday, 24 May, 1984**

**COMPUTER COMMUNICATIONS NETWORKS**

**HALL A**

**Chairpersons:** **Y. Yemini**, Columbia University, U.S.A.  
**R. Atar**, Israel Discount Bank Ltd., Israel

- 14.00–14.30 AN EXTENDED METHOD FOR PROTOCOL VALIDATION**  
**G. Messina**, Universita di Catania, Italy

- 14.30–15.00 CSMA WITH COLLISION DETECTION FOR RADIO CHANNELS**  
**R. Rom**, Technion – Israel Institute of Technology, Israel

- 15.00–15.30 APPROXIMATE PERFORMANCE MODEL FOR ASYNCHRONOUS CIRCUIT SWITCHED DELTA NETWORKS**  
**L. Ciminiera and A. Serra**, Politecnico di Torino, Italy

- 15.30–16.00 Coffee break**

**DATABASES**

**HALL B**

**Chairpersons:** **E.J. Neuhold**, Hewlett-Packard, U.S.A.  
**M. Hanani**, Ben-Gurion University of the Negev, Israel

- 14.00–14.30 AUTOMATIC LOGICAL DATABASE DESIGN IN A CODASYL ENVIRONMENT**  
**A. Dileva and P. Giolito**, University of Torino, Italy

- 14.30–15.00 TOWARDS A FLEXIBLE USER INTERFACE TO RELATIONAL DATABASE SYSTEMS**  
**T. Imielinski and D. Rozenshtein**, Rutgers University, U.S.A.

- 15.00–15.30 AN APPROACH TO CONCEPTUAL SCHEMA SUPPORT IN A RELATIONAL DBMS ENVIRONMENT**  
**H. Kilov**, U.S.S.R.

- 15.30–16.00 Coffee break**

**INFORMATION SYSTEMS**

**HALL C**

**Chairpersons:** **S. Winkler**, National Bureau of Standards, U.S.A.  
**P. Ein-Dor**, Tel Aviv University, Israel

- 14.30–15.00 THE INFORMATION RESOURCE CENTER**  
**S. Winkler**, National Bureau of Standards, U.S.A.

- 15.00–15.30 THE NEW FACE OF VIDEOTEX**  
**J. Gescei**, University of Montreal, Canada

- 15.30–16.00 Coffee break**

**Thursday, 24 May, 1984**

**COMPUTER COMMUNICATIONS NETWORKS**

**HALL A**

**Chairpersons:** **Y. Yemini**, Columbia University, U.S.A.  
**R. Atar**, Israel Discount Bank Ltd., Israel

- 16.00–16.30 PETRINET ORIENTED TOOLS FOR A PROTOCOL DESIGN METHODOLOGY**  
**J.M. Ayache and J.P. Courtiat**, Centre National de la Recherche Scientifique, France

- 16.30–17.00 ETHERNET MODELS WITH DIFFERENT SYSTEM CRITERIA**  
**M. Melman**, Weizmann Institute of Science, Israel

**OFFICE AUTOMATION**

**HALL B**

**Chairpersons:** **M. Zloof**, International Business Machines Corporation, U.S.A.  
**J. Finkel**, Weizmann Institute of Science, Israel

- 16.00–16.30 FUTURE OFFICE SYSTEMS: CONCEPTS AND FACILITIES**  
**M. Zloof**, International Business Machines Corporation, U.S.A.

- 16.30–17.00 DITROFF/FFORTID: AN ADAPTATION OF UNIX'S DITROFF FOR FORMATTING BI-DIRECTIONAL TEXT**  
**C. Buchman and D.M. Berry**, University of California – L.A., U.S.A.

- 17.00–17.30 A UNIVERSAL OFFICE AUTOMATION SCHEME**  
**R. Krishnamurthy and G. Hochgesang**, International Business Machines Corporation, U.S.A.

**INFORMATION SYSTEMS**

**HALL C**

**Chairpersons:** **S. Winkler**, National Bureau of Standards, U.S.A  
**P. Ein-Dor**, Tel Aviv University, Israel

- 16.00–16.30 VALUE AND EFFECTIVENESS OF INFORMATION IN DECISION-MAKING**  
**M.C. Yovits**, Purdue University, U.S.A.

- 16.30–17.00 ACTIVE INFORMATION SYSTEM**  
**C. Rolland, O. Foucaut and O. Thiery**, University of Paris, France

**Friday, 25 May, 1984**

***CHALLENGE OF THE FIFTH GENERATION***

**(Plenary Session)**

**HALL A**

**Chairperson: D. Brandin, SRI International, U.S.A.**

- 08.30–09.15 CHALLENGE OF THE JAPANESE FIFTH GENERATION  
D. Brandin, SRI International, U.S.A.**
- 09.15–10.00 KNOWLEDGE PROCESSING – THE IMPORTANT COMPUTER REVOLUTION  
E. Feigenbaum, Stanford University, U.S.A.**
- 10.00–10.30 Coffee break**
- 10.30–11.15 TECHNOLOGY AND FIFTH GENERATION COMPUTING – WHO IS TRANSFERRING WHAT TO WHOM?  
M. Harrison, University of California – Berkeley, U.S.A.**
- 11.15–12.00 ESPRIT: A EUROPEAN APPROACH TO THE CHALLENGE OF INFORMATION TECHNOLOGY  
J.M. Cadiou, Commission of European Communities, France**
- 12.00–13.00 PENAL DISCUSSION: CHALLENGE OF FIFTH GENERATION AND IMPLICATIONS  
D. Brandin, E. Feigenbaum, M. Harrison, J.M. Cadiou and E. Shapira, (Weizmann Institute of Science, Israel)**
- 13.00–13.15 Closing Remarks**

## **SOCIAL EVENTS**

**The Organizing Committee invites all registered participants and registered accompanying persons to the following events:**

***RECEPTION***

**Monday, May 21, 18:30**

A welcoming reception will be held at the Binyanei Ha'ooma Convention Center.

***ISRAELI FOLKLORE PERFORMANCE***

**Monday, May 21, 21:00**

Song and dance show presents Israeli folklore in traditional, ethnic costumes, at the Jerusalem Theatre.

***RECEPTION AT THE ISRAEL MUSEUM***

**Tuesday, May 22, 20:30 (departure 20:00)\***

By kind invitation of the Municipality of Jerusalem, a reception will be held at the Israel Museum. Light drinks and refreshments will be served, and participants will be free to view at their leisure the archeological treasures in the Museum and the Dead Sea Scrolls in the adjacent Shrine of the Book.

\* Buses will depart from the Jerusalem Hilton and Sonesta Hotels at 20:00 and return from the parking lot at the entrance to the Museum at 22:15.

***FAREWELL BANQUET (Optional)***

**Thursday, May 24, 20:30**

Festive dinner and entertainment featuring Israeli Folklore will be held at the Jerusalem Hilton Hotel.

## **PROGRAM FOR REGISTERED ACCOMPANYING PERSONS**

### ***OLD CITY TOUR***

**Tuesday, May 22, 13:00-17:00**

Assemble for departure at the Jerusalem Hilton Hotel upper lobby. Buses will proceed directly to the Old City of Jerusalem for a guided tour of the religious and historic sites of the city, which is sacred to three of the world's great religions. Among the sites to be visited are the Jaffa Gate, David's Tower, the Christian Quarter, including the Via Dolorosa and the Church of the Holy Sepulchre, the Armenian Quarter, the Jewish Quarter, the Moslem Quarter, the Western (Wailing) Wall, and the Temple Mount with the Mosque of Omar and El Aksa Mosque. Ample time will be provided for browsing and shopping in the myriad booths and shops which are typical of the Middle Eastern casbah.

### ***NEW CITY TOUR***

**Thursday, May 24, 09:00-13:00**

Assemble for departure at the Jerusalem Hilton Hotel upper lobby. Buses will proceed to the New City of Jerusalem for a guided tour of the Hadassah Hospital, whose synagogue contains stained-glass windows by Marc Chagall; the Kennedy Memorial; the Yad Vashem memorial to victims of the Holocaust; the Knesset (Parliament) building, and the model of ancient Jerusalem.

*Additional tours may be purchased at the Conference Travel Desk.*

## **GENERAL INFORMATION**

### **Location**

Binyanei Ha'ooma Convention Center, Jerusalem, tel: (02) 221174.

### **Badges**

The personal envelope which you received upon registration contains, among other items, your name badge. Please wear the badge, which serves as your admission ticket to the scientific sessions and the scheduled social functions.

### **Office and Desks**

Registration

Information

Secretariat/Organizing Committee

Travel - International Ltd.

### **Telephones**

Public telephones are situated in the Binyanei Ha'ooma Convention Center. These telephones are operated only by tokens, which may be purchased at the Information Desk.

### **Projection**

Speakers are kindly requested to hand their slides to the projectionist prior to the relevant session. Slides must be marked with the speaker's name as well as date, hour and title of session. Slides must be collected from the projectionist immediately after presentation. Special requirements must be notified a day prior to presentation.

### **Postal Services**

A special postal service will be available at Binyanei Ha'ooma from 11:00 hours to 17:00 hours on Tuesday, May 22, and outgoing mail will be stamped with a special cancellation commemorating the 4th Jerusalem Conference on Information Technology. For postal services during the rest of the Conference week, please apply to the Information Desk.

### **Photographer**

Photographs of special events will be on display within 24 hours of the event.

#### **Instructions to Speakers and Chairpersons**

Chairpersons and speakers are requested to meet with each other 30 minutes prior to the commencement of their respective session, in the session hall. In order to make it possible for participants to plan attendance at different parallel sessions, it is essential that the time table be strictly adhered to.

### **Meals and Refreshments**

**At the Binyanei Ha'ooma Convention Center:**

Cafeteria serving sandwiches and hot and cold drinks.

Lunches are available at a self-service restaurant, and also at a table-service restaurant.

**At the Jerusalem Hilton Hotel:**

The Judean Lounge (dairy meals)

The Hamsah Restaurant.

### **Farewell Banquet**

A Farewell Banquet will be held on Thursday, May 24, at 20:30 hours, at the Jerusalem Hilton Hotel. The Banquet includes dinner and entertainment featuring Israeli Folklore.

Price: \$20 per person.

Tickets may be purchased at the Information Desk until Wednesday, at 11:00 hours.

### **Tourist Information**

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### **Conference Organizers and Secretariat**

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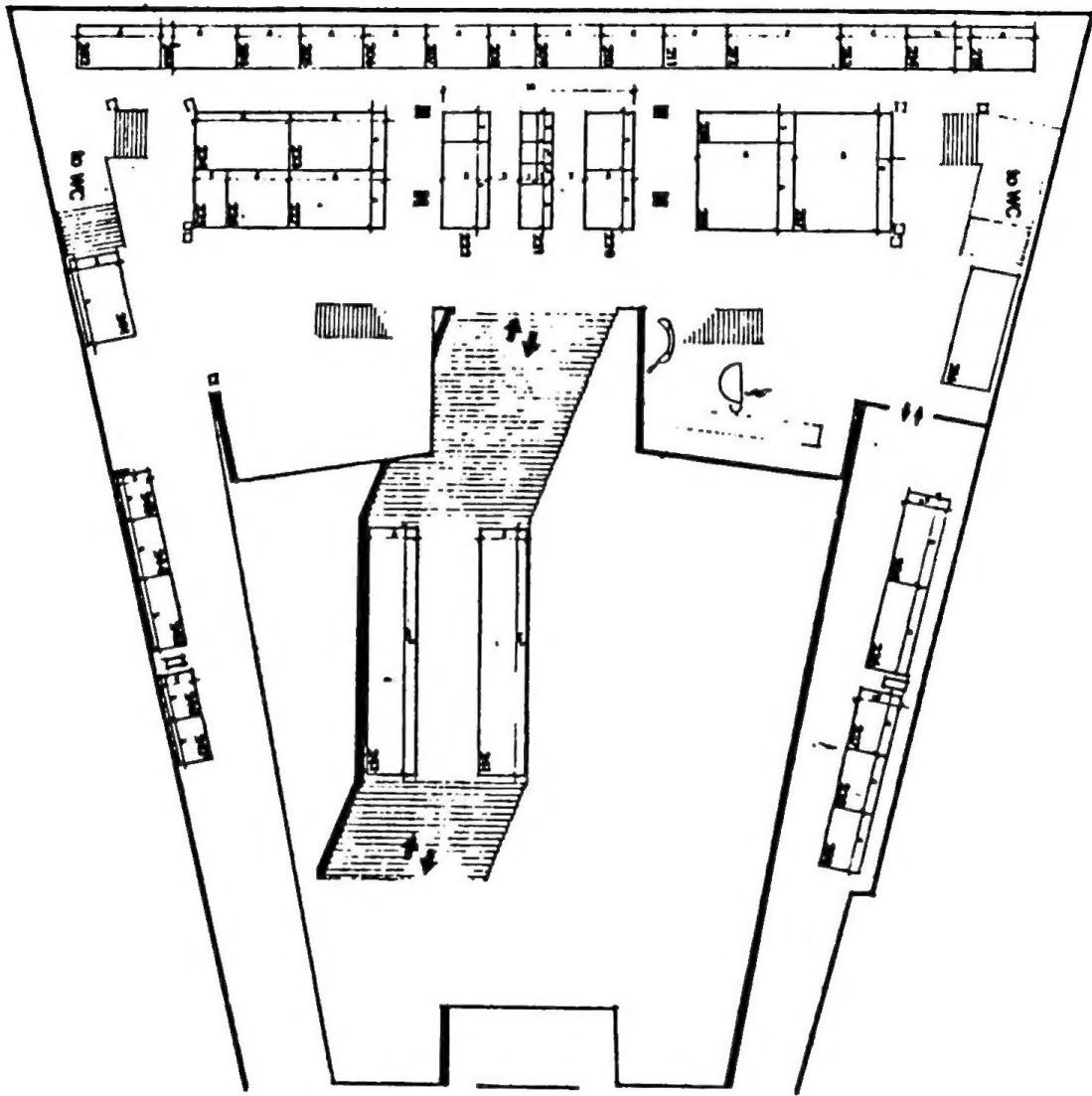
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LEVEL B

**GROUND FLOOR**  
**LEVEL A**

